

## SHORT COMMUNICATION

# *ILIOSUCHUS*, A JURASSIC DINOSAUR FROM OXFORDSHIRE AND UTAH

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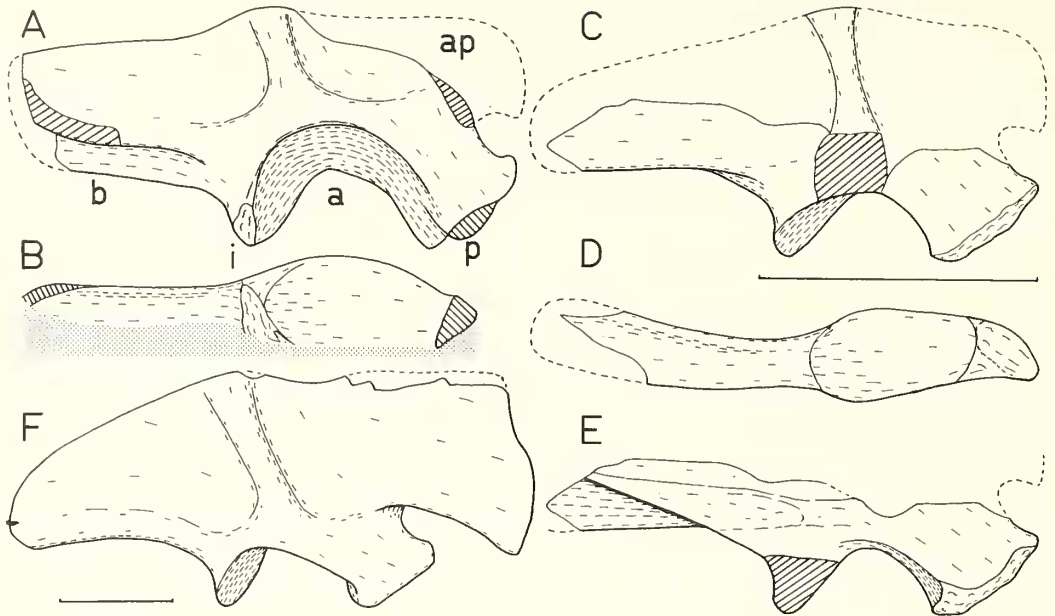
**ABSTRACT.** Iliia of the small theropod dinosaur *Iliosuchus incognitus* von Huene from the Stonesfield Slate (Middle Jurassic–Bathonian) of Oxfordshire are characterized by a prominent vertical ridge on the lateral surface. A similar ridge is present also on ilia of *Stokesosaurus clevelandi* Madsen from the Morrison Formation (Upper Jurassic–Tithonian) of Utah. This suggests that *Stokesosaurus* should be regarded as a junior synonym of *Iliosuchus*, and is further evidence of a land connection between Europe and North America during the Jurassic.

VON HUENE (1932) described a small and only partly prepared ilium from the Stonesfield Slate (Middle Jurassic–Bathonian) of Oxfordshire as a new genus and species of theropod dinosaur, *Iliosuchus incognitus*. The holotype was collected by G. W. Masson in 1880 from the *Gracilisphinctes progracilis* Zone of Stonesfield. *Iliosuchus* is listed by Romer (1966, p. 369) as a junior synonym of *Megalosaurus*; this is reasonable on the basis of the published figure (von Huene 1932, pl. 2, fig. 3) and in view of the fact that many bones of the large theropod *M. bucklandi* also are known from the Stonesfield Slate (Buckland 1824; von Huene 1926). However, preparation of the ilium (text-fig. 1A, B) shows that *Iliosuchus* is a distinct genus to which should also be referred another small Stonesfield ilium (text-fig. 1C–E) from Oxfordshire, originally figured as that of a young megalosaur by Phillips (1871, p. 212). These ilia are redescribed below and the relationships of *Iliosuchus* are considered. Institution names are abbreviated as follows: BM, British Museum (Natural History), London; OUM, Oxford University Museum; UUVP, University of Utah Vertebrate Paleontology Collection, Salt Lake City, U.S.A.

### DESCRIPTION AND COMPARISONS

The most noticeable feature of the lateral surface of the holotype ilium of *I. incognitus* is the prominent vertical ridge which flares out anteriorly and posteriorly above the acetabular margin (text-fig. 1A). Anterior to this ridge, the bone is crushed and incomplete, so that the outline of the anterior process is unknown. As preserved, the maximum height is 42 mm, the maximum length is 89 mm, and the maximum width of the acetabulum is 32 mm. The other ilium (text-fig. 1C–E) is damaged and incomplete, but it is so like the holotype that, taking individual variation into account, it is reasonable to refer it to *I. incognitus*.

The lateral surface of the ilium of *M. bucklandi* (Stonesfield Slate, Oxfordshire) is smooth with no trace of a vertical ridge (Walker 1964, fig. 16*d*). The outline of the ilium of *Tyrannosaurus* (Upper Cretaceous, U.S.A.) is rather different, but there are traces of a vertical ridge (Romer 1923, fig. 1) which is interpreted by Russell (1972) as the boundary between the areas of origin of the anterior and posterior heads of the iliofemoralis muscle.



TEXT-FIG. 1. *Iliosuchus* ilia. A, B, *Iliosuchus incognitus* von Huene holotype BM R83,  $\times 0.75$ , right ilium; A, lateral view; B, ventral view. C-E, *I. incognitus*, referred specimen OUM J29780,  $\times 0.75$ , left ilium; C, lateral view printed in reverse; D, ventral view printed in reverse; E, medial view. F, *I. clevelandi* (Madsen) holotype UUVP 2938,  $\times 0.30$ , left ilium in lateral view, printed in reverse after Madsen (1974, fig. 1A). a, acetabulum; ap, anterior process; b, brevis shelf; i, ischiadic head; p, pubic peduncle. Scale lines represent 5 cm.

The only other theropod ilium described to date that is similar to those of *Iliosuchus* is that of *Stokesosaurus clevelandi* Madsen, 1974 (text-fig. 1F) from the Brushy Basin Member of the Morrison Formation (Upper Jurassic-Tithonian) of the Cleveland-Lloyd Quarry in east central Utah. This ilium is larger (maximum length 220 mm, referred specimen 330 mm), and appears to be proportionally deeper with a large anterior process (text-fig. 1A, C, F). However, these differences are relatively minor. On the basis of the material described to date, *Stokesosaurus* Madsen, 1974 may therefore be regarded as a subjective junior synonym of *Iliosuchus* von Huene, 1932, and the name of the American species becomes *I. clevelandi* (Madsen). The systematic position of *Iliosuchus* is uncertain and therefore, although additional material may eventually prove that it belongs to the family Coeluridae, *Iliosuchus* is best regarded as a theropod *incertae sedis*.

The similarities between the dinosaurian faunas of the Morrison Formation of the western interior of North America and the Tendaguru Formation of Tanzania, East Africa can be accounted for only by assuming the presence of a land connection between these two areas some time during the Middle to Late Jurassic (Charig 1973; Colbert 1974; Cox 1974). Europe and North America also were presumably connected at this time, but faunal evidence for this is slight (Charig 1973; Cox 1974). The presence of *Iliosuchus* in both areas provides additional faunal evidence for a transatlantic connection during Middle to Late Jurassic times.

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